


Challenges in Dental Education

Harmonisation in dental education

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Issues to be addressed:

1. Meaningful goals for the education of dental students
2. The concept of a minimum curriculum
3. The use of competencies
4. Challenge faced in Europe to achieve harmonisation of EEC member countries

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Observation 1: Why variation in education period?

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The graduate

- Has been taught and can perform many basic procedures - not necessarily the most modern
- No hands-on experience with many procedures common in modern dental clinics
 - from where and how can further training be obtained?
- Theoretic knowledge at zenith, from now on less time for reading / question of priorities
- Already from day 1 the science in dentistry advances further - how to stay updated? 7

Do we prepare future colleagues to change behavior, attitude and techniques in light of new knowledge?

The case of the impacted third molar

RATIONALE: In recent years, several critical outcome studies concerning prophylactic removal of mandibular third molars have been published. These would appear to motivate a more restrictive approach.


AIM: Examine dentists' decisions on the prophylactic removal of impacted mandibular third molars over a 10-year period.

METHODS: 36 cases selected, equal distribution of gender and ages, angular position and degrees of impaction. 26 GDPs and 10 oral surgeons judged the same cases on two occasions 10 years apart.

RESULTS: No difference in the mean number of molars designated for removal between the two occasions. Considerable inter-individual variation in removal rate, between 0 and 25 molars


CONCLUSION: There is no change over the last 10 years towards a more non-interventionist attitude. Dentists seem not to have been influenced by the evidence that this intervention is not cost-effective.

Knutsson et al. Dentists' decisions on prophylactic removal of mandibular third molars: a 10-year follow-up study. *Comm Dent Oral Epidemiol* 2001, 29:308-14



Observation 3:
Preparing the future
professional for new
information?

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An Information Explosion

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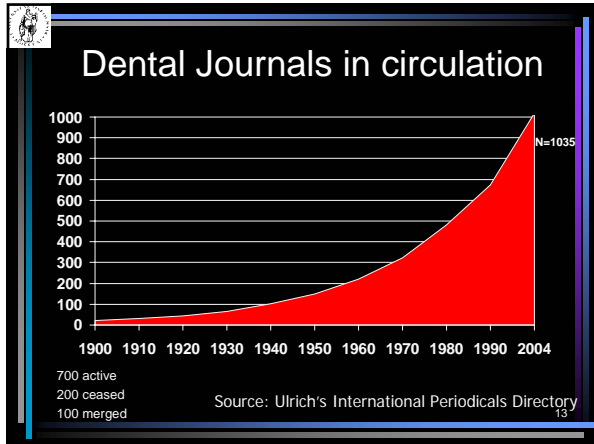


A rapidly changing society

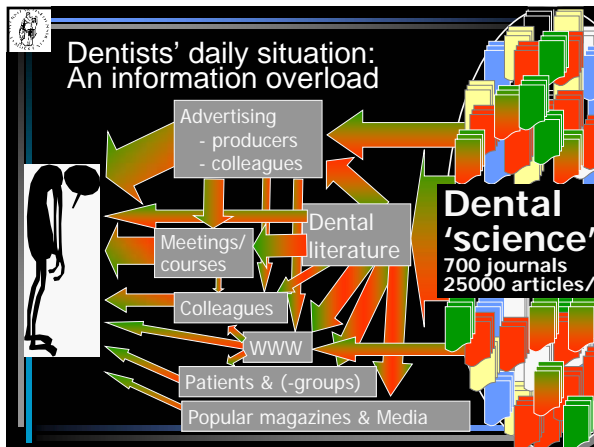
The production of new knowledge
in biomedicine is at maximum in
historical context


- Tremendous growth in
publications
- Related to numbers of
physicians and scientists
- Infomercial publications

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Do we adequately prepare our future colleagues to consider not only the amount of information, but also the quality of this information?





Information
is not synonymous
to knowledge
and even less so to
clinical competence

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Observation 4:
Preparing the future
professional to be able
to critically appraise
new information – i.e. to
gain new knowledge?

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1. Meaningful goals
for the education of
dental students

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Dental education – influenced today by
Quantity:

- The demand and need of oral health care in a given region
- Dentists' demographics
 - Gender, Age & Oversupply
- Delegation of work task to auxiliaries

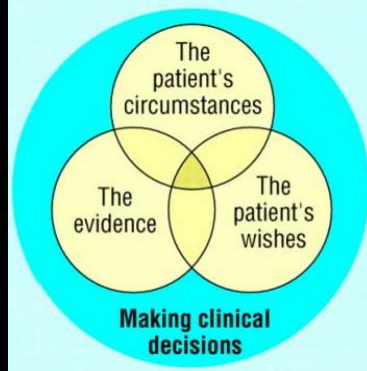
Content:

- The prevalence and epidemiological trends of oral and dental diseases
 - **Prepared for acting in our age of information and continual changes?**

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Prepare for Evidence-based Practice:
Individual
Community
levels



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Suggestion: Educational strategy

Premise: Politically difficult to expand curriculum and length of study

- Problem based learning - PBL
- Focus on "why"s instead of "how to"s
- Motivate on need for life-long learning
- Teach critical appraisal of new information
- Prepare how to meet tomorrow's knowledgeable patients' needs and requests

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Schools of Dentistry applying a PBL approach

- U. Liverpool, England; U. Malmö, Sweden; U. Oslo, Norway; Trinity U., Dublin, Ireland
- Hong Kong U.; National U. Singapore; U Thammasat, Thailand;
- U. of Adelaide, Queensland U, U Sydney,
- U. California, Colorado, Columbia, Harvard School of Dental Medicine, Indiana, Pennsylvania, U. Southern California, U. Southern Illinois,

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Problems & Barriers

- Resources required
- Instructors (GPs) often selected as tutors
 - Pragmatists
- Learning intensive
 - Students' use strategies to avoid PBL
- Integration of clinical disciplines versus basic sciences
- Clinical cases ending up as the "problem"
 - not the education need

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Create a reflective practitioner

Personal development plan parallel to the progress plan


Training to be critically aware of what is happening

Document evidence to show that they've thought about

(Strategy Leeds)


Bridging the gap 5+2, UK, 1999

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2. Minimum curriculum concept

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E.g. Dental directive (EC/78/687): Minimum training

5 years & Core curriculum consisting of:

- 1. Basic subjects**
chemistry, physics, biology
- 2. Medico-biological subjects and general medical subjects**
anatomy, embryology, histology, cytology, physiology, biochemistry, pathology, pharmacology, microbiology, hygiene, preventive medicine, epidemiology, physiotherapy, general surgery & medicine, oto-rhino-laryngology, dermatovenereology, general psychology, psychopathology, neuropathology
- 3. Subjects related to dentistry**
prosthodontics, dental materials and equipment, conservative, preventive, anaesthetics and sedation, special surgery, special pathology, clinical practice, paedodontics, orthodontics, periodontics, radiology, occlusion and function of the jaw, professional organisation, ethics and legislation, social aspects of dental practice


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Curriculae contents

USA	Canada	Germany	UK
1998	1997	1993	2002 (1997)
ADA commission on Dental Accreditation	Commission on Dental Accreditation	Approbations -ordnung für Zahnärzte. Gesetz über die Ausübung der Zahnheilkunde	General Dental Council
Accreditation standards for dental education programs	The Accreditation Process and Education Requirements		The first five years

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Problems with harmonising curriculae

- Optimal teaching method?
- Volume of theoretical vs clinical learning?
- Methods for assessment of competency?


Example from the Nordic countries:
Scandinavian Society for Prosthetic
Dentistry, Educational Committee

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3. Minimum competency concepts

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Competencies for the new dentist

<p>USA (AADS) 1997, 2001, 2004 Competencies for the new Dentist. J Dent Educ</p>	<p>UK (GDC) 1997 The first five years</p>	<p>The Quality Assurance Agency for Higher Education</p> <p>Subject benchmark statements</p> <p>Academic standards - Dentistry</p>
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UK (GDC)
2002
The first
five years



Knowledge, skills, values

- General skills
- Information management
- Practice management
- Communication
- Community resources
- Dept management
- Patient care competencies
 - Diagnosis – treatment planning - treatment

AADS. Competencies for the new Dentist. J Dent Educ 2004; 61:556




GDC, 2002: Three-circle model (Harden)

1. What the dentist is able to do
("technical intelligencies")

"Practical skills":

- Clinical information gathering
- Treatment planning
- Treatment procedures

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GDC, 2002: Three-circle model (Harden)

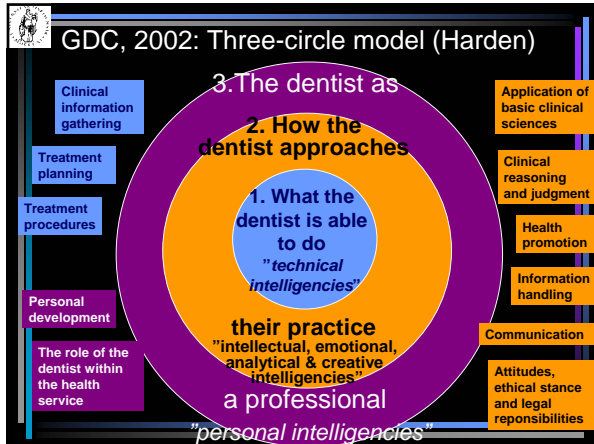
2. How the dentist approaches their practice

1. What the dentist is able to do
("technical intelligencies")

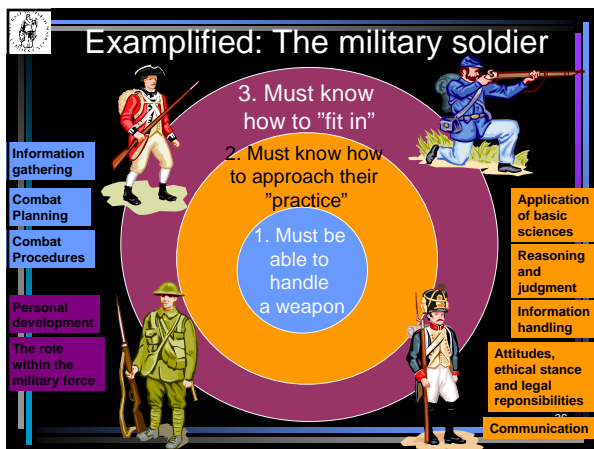
("intellectual, emotional, analytical & creative intelligencies")

What they bring to the treatment of each patient

- Application of basic clinical sciences
- Clinical reasoning and judgment
- Communication
- Health promotion
- Attitudes, ethical stance and legal responsibilities
- Information handling



A misconception:
Competency-based education does not replace a requirement for discipline-oriented training





4. Challenge faced in Europe to achieve harmonisation of EEC member countries

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The European Economic Area

Free movement of business, services and workers throughout western Europe

Special regulations on dentistry provide for the mutual recognition of dental qualifications in all 25 member states + Iceland, Liechtenstein and Norway = European Economic Area (EEA) + Switzerland

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EU Dental directive

A piece of European legislation which is addressed to member states

Once passed at the European level, each member state must ensure that it is effectively applied in their legal system

A directive prescribes an end result. The form and methods of the application is a matter for each member state to decide for itself

In principle, a directive takes effect through national implementing measures (national legislation)

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Recognition of qualifications in EU/EEA

- EU/EEA dental qualifications held by the nationals of EU/EEA countries are recognised in each member state
- Dentists are therefore able to practise throughout the EU and EEA
- Primary dental qualification is needed (eg BDS/LDS)
- Dentists must register with the regulatory authority of the country in which they wish to work
- The regulatory authority in the country registers or licenses practise.

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The EU directive does not hinder member countries to register dentists from other countries. E.g. UK:

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Dental licensure in U.K. per 2004

EU/EEA nationals with EU/EEA dental qualifications

- Eligible for registration by GDC
- Once registered, practise without restriction in the UK.
- A language requirement for working in the NHS General Dental Service
- EU/EEA nationals are not required to undertake vocational training for NHS practice unless they have graduated from a UK dental school.

Austria, Italy, Spain, Australia, Hong Kong, Malaysia (1950 - 1962 and U. of Malaya 1997-2000 only), Malta (only up to 1978), New Zealand, Singapore and most South African dental schools.

- Special regulations

Other countries

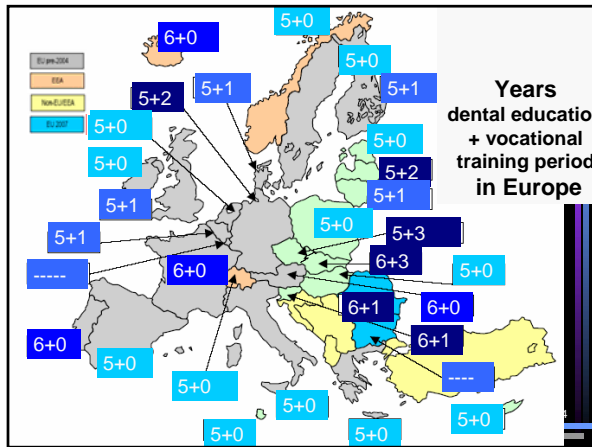
- Not eligible for registration.
- Must either acquire a UK qualification (the Bachelor of Dental Surgery) or pass the GDC's International Qualifying Examination

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Change of dental curriculums in EU

Austria	curr. 19982004
Czeck republic	2004
Estonia	2002
Hungary	1996
Latvia	1993
Lithuania	1994
Poland	2002
Romania	2003

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Country	Edue (Yrs)	Vocatl Train.	Dentist Pop.	Minimul CDE
Austria	6	0	2000	-
Belgium	5	1	1350	10
Cyprus	--	0	1100	-
The Czech Republic	5	3	1500	-
Denmark	5	14406	1100	-
Estonia	5	0	1400	-
Finland	5	9m	1100	-
France	6	0	1500	-
Germany	5	2	1300	Dis.
Greece	5	0	900	-
Hungary	5	0 (2,2004)	2000	50
Iceland	6	0	1000	-
Ireland	5	0	2200	-
Italy	5	0	1200	Dis.
Latvia	5	2	1500	50
Lithuania	5	1	1100	40
Luxembourg	--	0	1500	Dis.
Malta	5	0	2700	-
The Netherlands	5	0	2100	-
Norway	5	0	1100	-
Poland	5	1	1550	Dis.
Portugal	6	0	2200	Dis.
Romania	6	1	2500	40
Slovakia	6	3	1700	5d
Slovenia	6	1	1500	1.5c
Spain	5	0	2600	-
Sweden	5	0	1200	-
Switzerland	5	0	1600	10d
The United Kingdom	5	1	3100	40

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